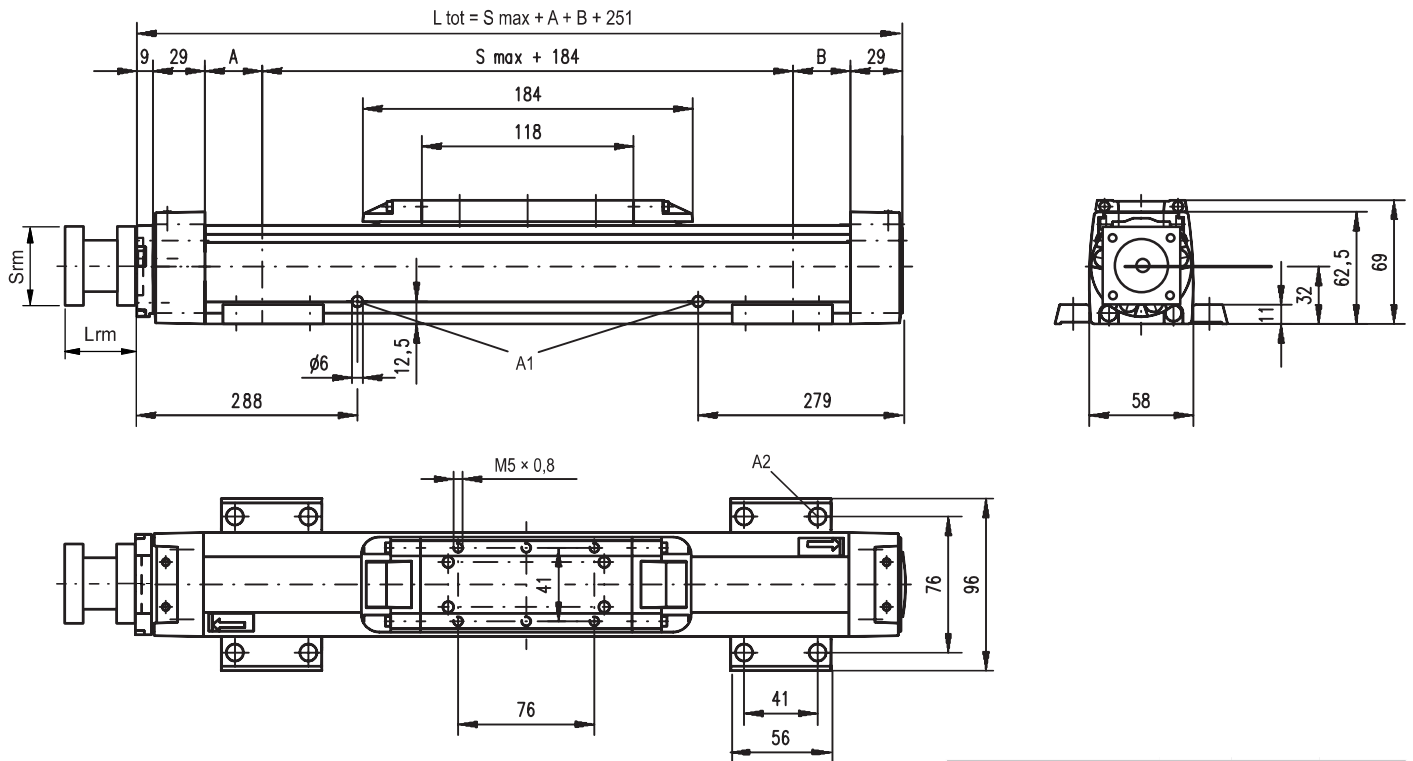


M55

Ball Screw Drive, Ball Guide

Dimensions	Projection	Online Sizing & Selection!
METRIC		www.LinearMotioneering.com



A1: lubrication holes
 A2: ø9,5/ø5,5 for socket head cap screw M5

Screw support configuration	A [mm]	B [mm]	Total length (L tot) [mm]
No screw support	6	6	$L_{tot} = S_{max} + A + B + 251$
Single screw support	40	40	$L_{tot} = S_{max} + A + B + 251$
Double screw supports	92	92	$L_{tot} = S_{max} + A + B + 251$

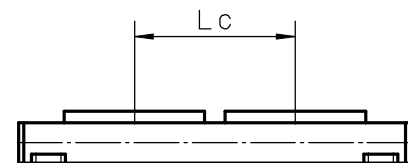
Parameter	Min	Max
Flange length (Lrm)	57	92
Flange square (Srm)	60	139
Flange weight *	1,84	

* Max. weight including coupling and fastening screws

Performance Specifications

for Units with Double Standard Carriage (C)

Parameter	M55
Stroke length (Smax), maximum	[mm] 2512
Total length (L tot), maximum	[mm] 2975
Minimum distance between carriages (Lc)	[mm] 200
Dynamic load (Fy), maximum	[N] 1350
Dynamic load (Fz), maximum	[N] 1350
Dynamic load torque (My), maximum	[Nm] $L_c^1 \times 0,675$
Dynamic load torque (Mz), maximum	[Nm] $L_c^1 \times 0,675$
Force required to move second carriage	[N] 2
Weight of unit with zero stroke of carriages	[kg] 6,5 2,4



Screw support configuration	A [mm]	B [mm]	Total length (L tot) [mm]
No screw support	6	6	$L_{tot} = S_{max} + A + B + L_c + 251$
Single screw support	40	40	$L_{tot} = S_{max} + A + B + L_c + 251$
Double screw supports	92	92	$L_{tot} = S_{max} + A + B + L_c + 251$



M75

Ball Screw Drive, Ball Guide

- » Ordering key - see page 179
- » Accessories - see page 117
- » Additional data - see page 172

General Specifications

Parameter	M75
Profile size (w × h) [mm]	86 × 75
Type of screw	ball screw with single nut
Carriage sealing system	self-adjusting steel cover band
Screw supports	number of screw supports to be specified by customer at order
Lubrication	lubrication of ball screw
Included accessories	none

Performance Specifications

for Units with Single Standard Carriage (A)¹

Parameter		M75
Stroke length (S _{max}), maximum	[mm]	
screw lead 5, 20 mm		3772
screw lead 12,7 mm		2665
Total length (L _{tot}), maximum	[mm]	
screw lead 5, 20 mm		4075
screw lead 12,7 mm		2968
Linear speed, maximum	[m/s]	1,0
Acceleration, maximum	[m/s ²]	8
Repeatability	[± mm]	0,05
Input speed, maximum	[rpm]	3000
Operation temperature limits	[°C]	-20 – 70
Dynamic load (F _x), maximum	[N]	2500
Dynamic load (F _y), maximum	[N]	2000
Dynamic load (F _z), maximum	[N]	2000
Dynamic load torque (M _x), maximum	[Nm]	18
Dynamic load torque (M _y), maximum	[Nm]	130
Dynamic load torque (M _z), maximum	[Nm]	130
Drive shaft force (F _{rd}), maximum ²	[N]	600
Input/drive shaft torque (M _{ta}), maximum	[Nm]	30
Screw diameter (d _o)	[mm]	20
Screw lead (p)	[mm]	5, 12,7, 20
Weight	[kg]	
of unit with zero stroke		6,90
of every 100 mm of stroke		1,05
of carriage		2,50
of option single screw support		1,70
of option double screw supports		3,58

¹ See next page for deviating values of units with other carriage types.

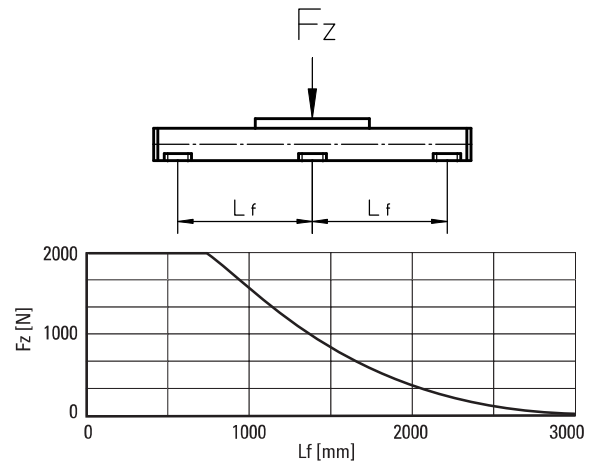
² Only relevant for units without RediMount flange.

Carriage Idle Torque (M_{idle}) [Nm]

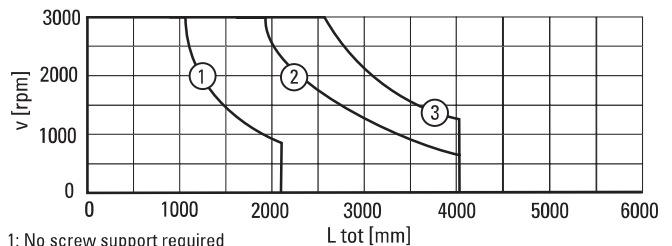
Input speed [rpm]	Screw lead [mm]		
	p = 5	p = 12,7	p = 20
500 - no screw supports	0,04	0,1	0,16
500 - with screw supports	0,06	0,12	0,2

M_{idle} = the input torque needed to move the carriage with no load on it.

Deflection of the Profile

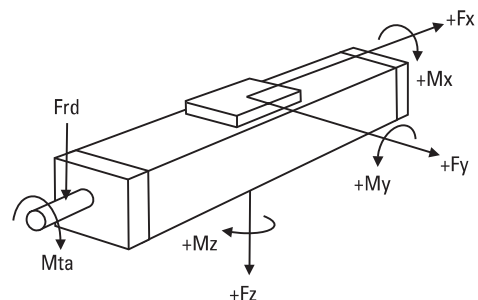


Critical Speed



- 1: No screw support required
- 2: Single screw support required
- 3: Double screw supports required

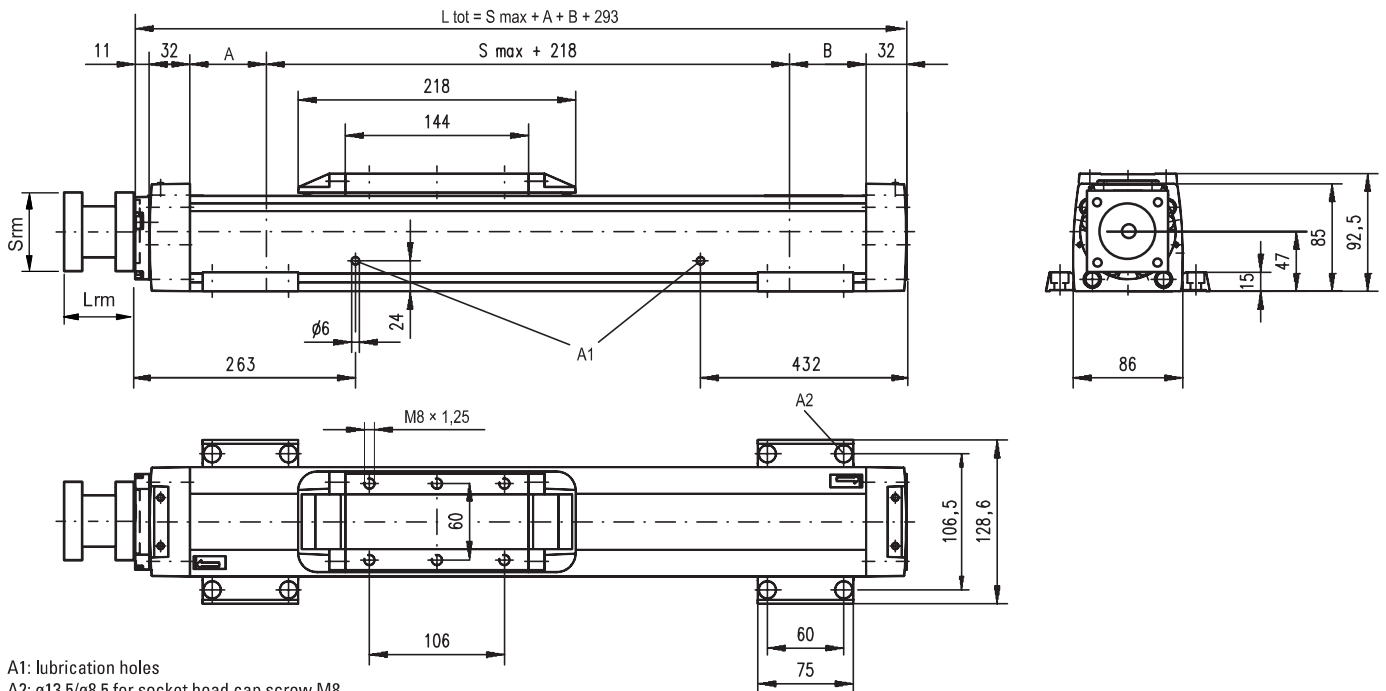
Definition of Forces



M75

Ball Screw Drive, Ball Guide

Dimensions	Projection	Online Sizing & Selection!
METRIC		www.LinearMotioneering.com



A1: lubrication holes
 A2: ø13,5/ø8,5 for socket head cap screw M8

Screw support configuration	A [mm]	B [mm]	Total length (L tot) [mm]
No screw support	5	5	$L_{tot} = S_{max} + A + B + 293$
Single screw support	60	60	$L_{tot} = S_{max} + A + B + 293$
Double screw supports	126	126	$L_{tot} = S_{max} + A + B + 293$

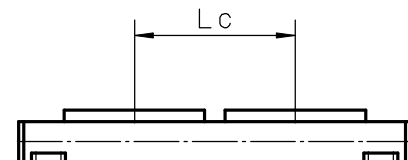
Parameter	Min	Max
Flange length (Lrm) [mm]	81	143
Flange square (Srm) [mm]	90	200
Flange weight * [kg]	5,60	

* Max. weight including coupling and fastening screws

Performance Specifications

for Units with Double Standard Carriage (C)

Parameter	M75
Stroke length (Smax), maximum [mm]	
screw lead 5, 20 mm	3522
screw lead 12,7 mm	2415
Total length (L tot), maximum [mm]	
screw lead 5, 20 mm	4075
screw lead 12,7 mm	2968
Minimum distance between carriages (Lc) [mm]	250
Dynamic load (Fy), maximum [N]	3000
Dynamic load (Fz), maximum [N]	3000
Dynamic load torque (My), maximum [Nm]	$Lc^1 \times 1,5$
Dynamic load torque (Mz), maximum [Nm]	$Lc^1 \times 1,5$
Force required to move second carriage [N]	2
Weight of unit with zero stroke of carriages [kg]	12,2
	5,0



Screw support configuration	A [mm]	B [mm]	Total length (L tot) [mm]
No screw support	5	5	$L_{tot} = S_{max} + A + B + Lc + 293$
Single screw support	60	60	$L_{tot} = S_{max} + A + B + Lc + 293$
Double screw supports	126	126	$L_{tot} = S_{max} + A + B + Lc + 293$

¹ Value in mm



M100

Ball Screw Drive, Ball Guide

- » Ordering key - see page 179
- » Accessories - see page 117
- » Additional data - see page 172

General Specifications

Parameter	M100
Profile size (w × h) [mm]	108 × 100
Type of screw	ball screw with single nut
Carriage sealing system	self-adjusting steel cover band
Screw supports	number of screw supports to be specified by customer at order
Lubrication	lubrication of ball screw
Included accessories	none

Performance Specifications

for Units with Single Standard Carriage (A)¹

Parameter		M100
Stroke length (S _{max}), maximum	[mm]	5578
screw lead 5, 10 mm		4378
screw lead 25 mm		
Total length (L _{tot}), maximum	[mm]	5974
screw lead 5, 10 mm		4774
screw lead 25 mm		
Linear speed, maximum	[m/s]	1,25
Acceleration, maximum	[m/s ²]	8
Repeatability	[± mm]	0,05
Input speed, maximum	[rpm]	3000
Operation temperature limits	[°C]	-20 – 70
Dynamic load (F _x), maximum	[N]	5000
Dynamic load (F _y), maximum	[N]	5000
Dynamic load (F _z), maximum	[N]	5000
Dynamic load torque (M _x), maximum	[Nm]	60
Dynamic load torque (M _y), maximum	[Nm]	400
Dynamic load torque (M _z), maximum	[Nm]	400
Drive shaft force (F _{rd}), maximum ²	[N]	1000
Input/drive shaft torque (M _{ta}), maximum	[Nm]	45
Screw diameter (d _o)	[mm]	25
Screw lead (p)	[mm]	5, 10, 25
Weight	[kg]	
of unit with zero stroke		14,3
of every 100 mm of stroke		1,72
of carriage		4,00
of option single screw support		1,86
of option double screw supports		4,42

¹ See next page for deviating values of units with other carriage types.

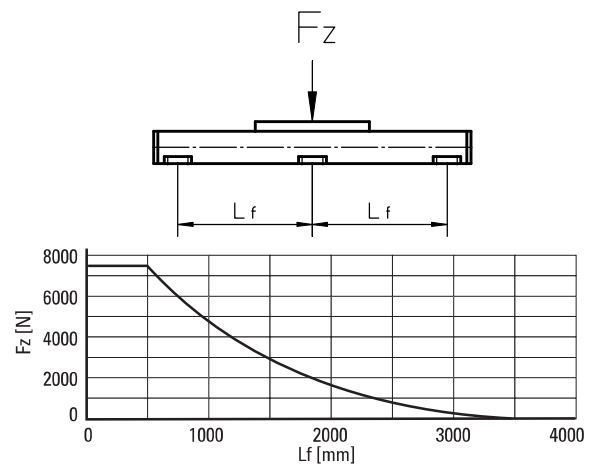
² Only relevant for units without RediMount flange.

Carriage Idle Torque (M_{idle}) [Nm]

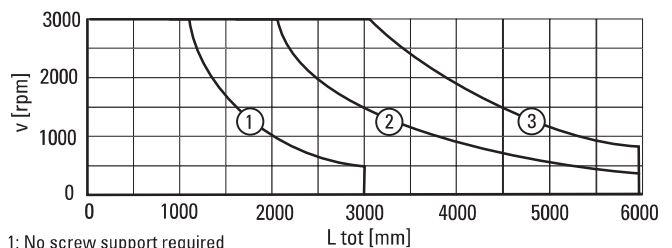
Input speed [rpm]	Screw lead [mm]		
	p = 5	p = 10	p = 25
500 - no screw supports	0,08	0,14	0,32
500 - with screw supports	0,1	0,16	0,37

M_{idle} = the input torque needed to move the carriage with no load on it.

Deflection of the Profile

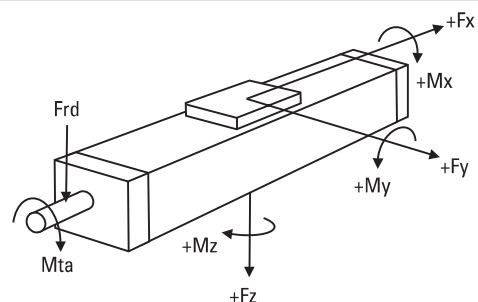


Critical Speed



- 1: No screw support required
- 2: Single screw support required
- 3: Double screw supports required

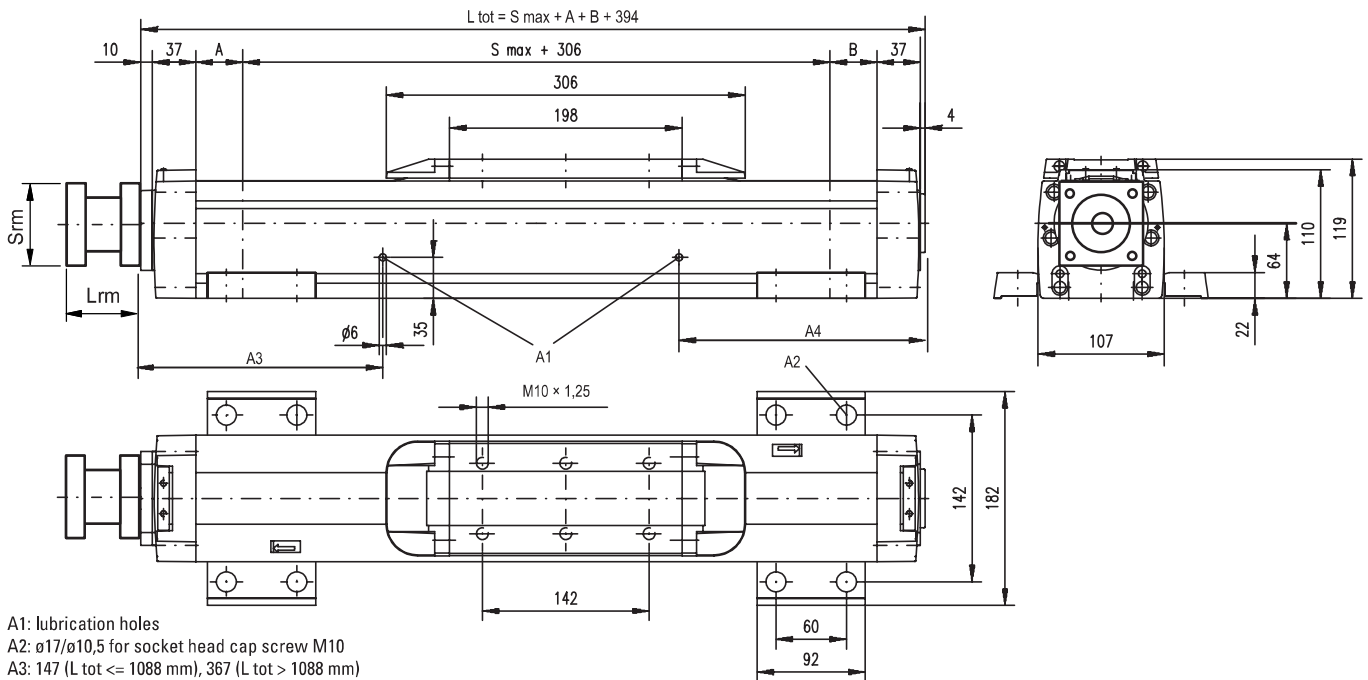
Definition of Forces



M100

Ball Screw Drive, Ball Guide

Dimensions	Projection	Online Sizing & Selection!
METRIC		www.LinearMotioneering.com



- A1: lubrication holes
- A2: ø17/ø10,5 for socket head cap screw M10
- A3: 147 (L tot <= 1088 mm), 367 (L tot > 1088 mm)
- A4: 141 (L tot <= 1088 mm), 471 (L tot > 1088 mm)

Screw support configuration	A [mm]	B [mm]	Total length (L tot) [mm]
No screw support	1	1	$L_{tot} = S_{max} + A + B + 394$
Single screw support	31	31	$L_{tot} = S_{max} + A + B + 394$
Double screw supports	86	86	$L_{tot} = S_{max} + A + B + 394$

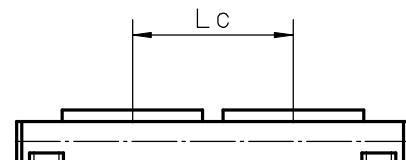
RediMount Flange Specifications			
Parameter		Min	Max
Flange length (Lrm)	[mm]	81	143
Flange square (Srm)	[mm]	90	200
Flange weight *	[kg]	5,60	

* Max. weight including coupling and fastening screws

Performance Specifications

for Units with Double Standard Carriage (C)

Parameter		M100
Stroke length (Smax), maximum	[mm]	5228 screw lead 5, 10 mm 4028 screw lead 25 mm
Total length (L tot), maximum	[mm]	5974 screw lead 5, 10 mm 4774 screw lead 25 mm
Minimum distance between carriages (Lc)	[mm]	350
Dynamic load (Fy), maximum	[N]	7500
Dynamic load (Fz), maximum	[N]	7500
Dynamic load torque (My), maximum	[Nm]	$Lc^1 \times 3,75$
Dynamic load torque (Mz), maximum	[Nm]	$Lc^1 \times 3,75$
Force required to move second carriage	[N]	2
Weight of unit with zero stroke of carriages	[kg]	25,3 8,0



Screw support configuration	A [mm]	B [mm]	Total length (L tot) [mm]
No screw support	1	1	$L_{tot} = S_{max} + A + B + Lc + 394$
Single screw support	31	31	$L_{tot} = S_{max} + A + B + Lc + 394$
Double screw supports	86	86	$L_{tot} = S_{max} + A + B + Lc + 394$

¹ Value in mm

Ordering Keys

Linear Motion Systems with Ball Screw Drive and Ball Guides

M55, M75, M100																																				
1	2	3	4	5	6	7	8	9	10																											
MF07S	05	LX	MC8	-01000	-01500	X	N	0000	S1																											
<p>1. Type of unit MF06S = M55 unit, ball guides, ball screw MF07S = M75 unit, ball guides, ball screw MF10S = M100 unit, ball guides, ball screw</p> <p>2. Screw lead and tolerance class¹ 05 = 5 mm 10 = 10 mm 12 = 12,7 mm 20 = 20 mm 25 = 25 mm</p> <p>3. Transmission type LX = inline style, directly coupled, RediMount flange SX = inline style, directly coupled, no RediMount flange</p> <p>4. RediMount motor ID code vvw = alphanumeric motor code for suitable RediMount flange when motor is known 999 = RediMount code used when motor is unknown XXX = for units without RediMount flange</p>			<p>5. Maximum stroke (Smax) - xxxxx = distance in mm</p> <p>6. Total length of unit (L tot) - yyyyy = distance in mm</p> <p>7. Screw supports X = no screw supports S = single screw supports D = double screw supports</p> <p>8. Carriage configuration N = single standard carriage Z = double standard carriages</p> <p>9. Distance between carriages (Lc) 0000 = for all single standard carriage units zzzz = distance in mm between carriages</p> <p>10. Protection option² S1 = wash down protection</p>			<p>¹ See table below for available combinations of units and ball screw type, lead and tolerance.</p> <table border="1"> <thead> <tr> <th rowspan="2">Ball screw type</th> <th colspan="3">Type of unit</th> </tr> <tr> <th>M55</th> <th>M75</th> <th>M100</th> </tr> </thead> <tbody> <tr> <td>05</td> <td>x</td> <td>x</td> <td>x</td> </tr> <tr> <td>10</td> <td>x</td> <td></td> <td>x</td> </tr> <tr> <td>12</td> <td></td> <td>x</td> <td></td> </tr> <tr> <td>20</td> <td>x</td> <td>x</td> <td></td> </tr> <tr> <td>25</td> <td></td> <td></td> <td>x</td> </tr> </tbody> </table> <p>² Leave position blank if no additional protection is required.</p>				Ball screw type	Type of unit			M55	M75	M100	05	x	x	x	10	x		x	12		x		20	x	x		25			x
Ball screw type	Type of unit																																			
	M55	M75	M100																																	
05	x	x	x																																	
10	x		x																																	
12		x																																		
20	x	x																																		
25			x																																	